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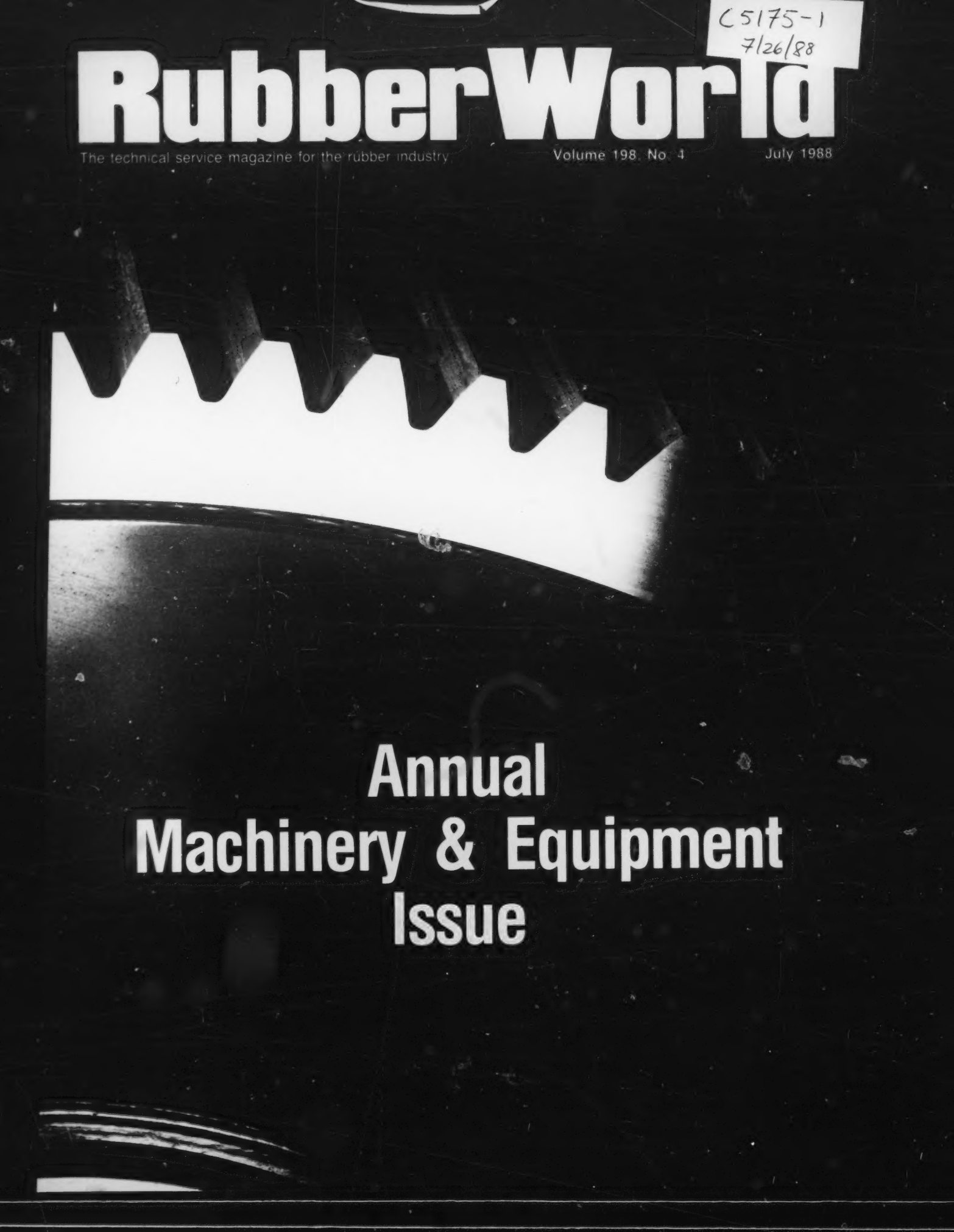
RubberWorld

The technical service magazine for the rubber industry

Volume 198 No. 4 July 1988

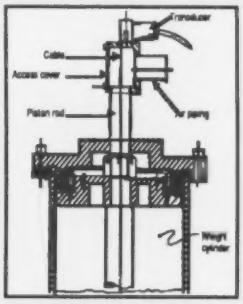


Annual Machinery & Equipment Issue

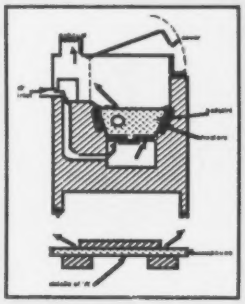
Contents

Vol. 198, No. 4/July 1988

Machinery and Equipment '88



Mixing cycle data p. 14



Continuous vulcanization p. 20

5 Business Briefs
Acquisitions, expansions; contracts, licenses; financial statements; markets, news.

11 Urethane Forum
A review of the upcoming SPI meeting, to be held in Philadelphia from October 18-21, is presented, including a listing of papers to be presented at a special chlorofluorocarbons panel.

12 Tech Service: Old hat?
by Jon Menough, contributing technical services editor. This month's column looks at styrene butadiene rubbers, including their potential properties and applications.

14 The acquisition and application of data obtained during the mixing cycle of an internal batch mixer
by William F. Flaherty, Farrel Corp. This article describes a unique data acquisition system refined to the special requirements of a banbury.

20 Continuous vulcanization processes
by Dr. Elisabeth Herlaut, France Elastomers. The author puts in perspective the salient features of a microwave system for continuous vulcanization.

23 Use of fluidizing techniques in pneumatic handling of process materials
by H. Hardy, consultant, Chronos Richardson Ltd. The author covers the advantages of fluidizing techniques for successfully moving bulk powdered materials in plant operations and provides a check list of necessary considerations.

27 Characterization of natural rubber for greater consistency
by Sekaran Nair, Rubber Research Institute of Malaysia. This article addresses the means available to producers of natural rubber to keep under good control the essential parameters and various components of natural rubber.

39 Used and rebuilt machinery suppliers
Results of a survey of rebuilt rubber processing equipment suppliers are presented, along with a directory and a grid showing rebuilding capabilities.

45 Corporate Profile '88

85 Techno Mart

Departments

4	Editorial	38	Calendar	90	Literature
34	Meetings	89	Jobs & People	92	Ad Index

Cover

Cover photo courtesy of Horsburgh & Scott.

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Editorial

Requests for back issues of a magazine are routine procedures providing the magazine was printed within the last five years. An issue that is more than 10 years old is out of the question. You can get it on microfilm, or as in most requests of this nature, we provide copies of the article(s) of your interest. Some requests pique your interest as to why someone would want an issue or article that is over 20 years old. Usually the intent can be rationalized, but a recent request we received is a lot harder to figure out. A foreign university has asked us for a microfilm copy of all our issues, with the exception of the last six years. This makes it the top order for shear number at 1,128 issues requested and sets the record for most years back at 99. A question of how we are going to fill this order was brought up with the usual why do they want something so old?

In October of 1989, *Rubber World Magazine* will be celebrating its 100th anniversary. In conjunction with this event we will publish a special issue of our 100 years of publishing which has had the editorial staff looking through the past volumes. There is a lot of nostalgia, but not much relevant technology. At least not for today's manufacturers. That first issue of *The India Rubber World and Electrical Trades Review* contained a similar editorial mix as the present day *Rubber World*. There were technical articles on processing, news of the industry, information on new products, materials and machinery, and literature reviews. But the information contained is not going to help you make a better rubber product today. There isn't much resemblance between a rubber manufacturing plant from 1889 and one from 1988. Just like there won't be much resemblance between present day operations and the factories of the 21st century. The changes that have occurred in this decade alone make much of the technology developed during the rest of the 20th century outdated.

The evolution of technology is not abating; if anything it is accelerating. Not all new technology is applicable to the rubber industry, but it's going to take some keen minds to figure out what is a waste of time and what is a real benefit to your manufacturing operations. For those who have computerized segments of your operations, you know how often updates of your software are developed. You also know that others have developed similar software that does the process differently, which may be better and which may or may not be compatible with your present hardware. So you spend a good portion of time evaluating new systems to manufacture a product you've made for years, even when you think your system is running at optimum cost and efficiency. Because if you don't, there exists the potential for lost market share or even markets.

Just as you have to stay abreast of the new materials you have to be cognizant of the new manufacturing technologies. Computer integrated manufacturing and computer aided manufacturing are just two that you should be familiar with. Because they are the hot technologies presently, and will soon evolve into something else. And if you don't know the basics, getting to the next step will be more difficult.

Don R. Smith
Editor

RubberWorld

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Business Briefs

the plant. Its partner is **China Petrochemical Development Corp.**

Natrium Products, Cortland, NY plans to have a 15,000 tons per year sodium bicarbonate plant begin operation this fall.

Precision Rubber, Lebanon, TN has opened up service centers in NY, OH, MI, IL, TX, PA and CA for its injection and compression molded rubber products.

RMA rubber report through March (figures in metric tons)

	YTD 1988	YTD 1987	% change
Total new rubber			
New rubber available	883,989	855,143	3.4
Imports	316,710	297,001	6.6
Exports	141,679	120,147	17.9
Apparent consumption	740,058	728,311	1.6
Total natural rubber			
Imports	239,821	226,662	5.8
Exports	10,363	9,429	9.9
Apparent consumption	232,095	216,613	7.2
Total synthetic rubber			
Production	567,279	560,142	1.6
Imports	76,889	70,339	9.3
Exports	131,316	110,718	18.6
Apparent consumption	507,960	511,695	-.7
Total SBR			
Production	226,114	216,090	4.6
Imports	22,904	20,977	9.2
Exports	47,044	44,201	6.4
Apparent consumption	190,342	196,505	-3.1
Total nitrile			
Production	18,493	18,071	2.3
Imports	4,300	3,310	29.9
Exports	4,185	2,906	44.0
Apparent consumption	19,331	16,497	17.2
Polybutadiene			
Production	98,248	94,796	3.6
Imports	20,167	23,114	-12.8
Exports	18,832	15,467	21.8
Apparent consumption	99,958	100,426	-.5
Ethylene-propylene			
Production	64,491	66,004	-2.3
Imports	1,730	1,544	12.1
Exports	14,799	11,724	26.2
Apparent consumption	54,689	51,901	5.4
Butyl, polychloroprene, polyisoprene, silicone and other synthetic elastomers			
Production	159,932	163,180	-2.0
Imports	27,788	21,394	29.9
Exports	46,456	36,420	27.6
Apparent consumption	143,649	146,366	-1.9

Contracts, licenses

Dow Chemical and **Exxon Chemical** have formed a joint venture for the supply and marketing of styrenic thermoplastic elastomers. Engineering work is underway and equipment ordered for the first plant to be located at Dow's Plaquemine, LA site. It is scheduled to be on stream in 1990 and will produce 70 million pounds per year of high-quality styrenic TPEs. Dow is currently doing process/product development work on a large pilot plant. The initial thrust for the product will be in the adhesives and sealants markets.

Dexter Plastics reached an agreement to license its know-how, technology and patents exclusively to **Asahi Chemical,** Tokyo, Japan. Asahi will import Dexter's Dexflex and Ontex thermoplastic polyolefin products into Japan.

Akron Chemical has been added as a national distributor of **J.M. Huber** carbon blacks.

Goodyear Roofing Systems signed a marketing agreement with **Dow Chemical** to jointly promote and sell Styrofoam brand roofing insulation in conjunction with its roofing systems. **Goodyear's Industrial Products** division signed **IBT Inc.,** Merriam, KS as a distributor for

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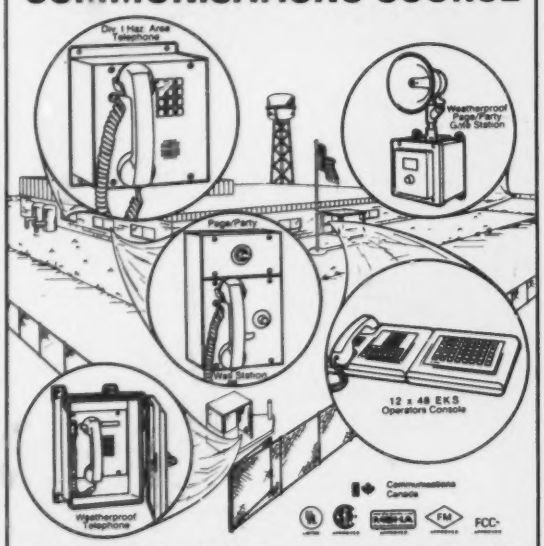

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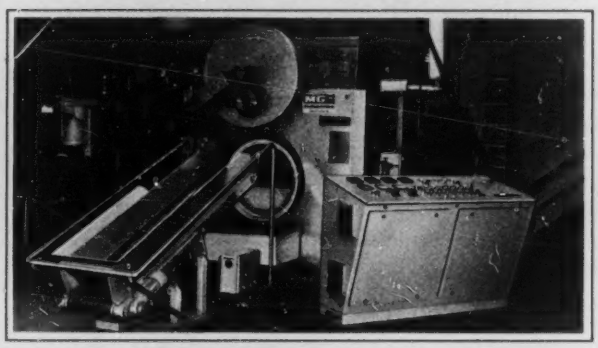

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Business Briefs

its products.

Monsanto named **Lawson-Hemphill, Inc.** of Rhode Island as representative for selling the company's tensile testers to the textile industry.

Exxon Chemical has taken a 15% stake in **Kumho E.P. Rubber**, a Korean joint venture with **Korea Kumho Petrochemical** who has 50% and **Japan Synthetic Rubber**, a 35% shareholder. KEPR plans to expand production capacity of ethylene-propylene rubber to 20,000 tons annually during 1989.

American Cyanamid and **Pilot Chemical** entered into a joint agreement to manufacture and market dodecyl diphenyl dislfonate, a specialty surfactant for the emulsion polymerization industry. Pilot is the manufacturer and Cyanamid will be the exclusive distributor with an option to license the manufacturing process technology.

BASF of West Germany and **Hanyang Chemical Corp.** of Korea plan a joint venture to manufacture MDI, aniline, polyurethane systems and other materials at a plant to be built in Yeochum, South Korea.

The machinery group of **Mobay** will manufacture electronically controlled, high pressure piston-dispensing equipment that is based on a design manufactured by Maschinenfabrik Hennecke GmbH. The equipment makes possible processing of highly filled polyurethane and polyurea systems with high viscosity and abrasiveness.

RMA tire report through February (figures in thousands of units)

Passenger tires	YTD '88	YTD '87	% change
Shipments			
original equipment	13,312	15,048	-11.5
radial	11,337	12,739	-11.0
replacement	34,183	31,964	6.9
radial	31,859	28,325	12.5
export	2,625	1,285	104.3
radial	2,307	1,106	108.6
total	50,121	48,297	3.8
radial	45,503	42,170	7.9
Production	45,152	42,614	6.0
radial	40,732	36,881	10.4
Truck & bus tires			
Shipments			
original equipment	2,219	1,946	14.0
radial	1,626	1,371	18.6
replacement	7,868	7,466	5.4
radial	4,552	3,874	17.5
export	867	447	94.0
radial	683	317	115.5
total	10,954	9,858	11.1
radial	6,861	5,562	23.4
Production	9,525	8,590	10.9
radial	5,709	4,599	24.1

CFC substitution will be examined at SPI polyurethane division meeting in Philadelphia

A special panel on chlorofluorocarbons, along with several technical papers devoted to CFCs, are some of the highlights of the upcoming Polyurethanes 88 meeting in Philadelphia. Sponsored by the polyurethane division of the SPI, the meeting will run from October 18-21 at the Wyndham Franklin Plaza Hotel.

The CFC panel, featuring a discussion on "Surviving the CFC crunch: An update on regulations, substitutes and alternatives," is one of six being offered at the meeting. The others include three end-market panels on furniture and bedding, automotive and construction; one on recycling and one on the economic outlook for the polyurethane industry.

Polyurethane 88 also marks the debut of business workshops, led by experts, and will cover crisis mangement; laws and regulations affecting the industry; chemical wastes and drum disposal; workplace safety; quality; and telemarketing. Morning sessions to address career and personal interests, including "career plateauing" and dual career relationships are also included.

In a press conference for the meeting, Robin Grieve of Dow Chemical and chairman of the management committee of the polyurethane division said "While we have seen sustained growth in all segments of urethane technology, we recognize that we are facing some critical issues, not least of which is the ozone depletion problem."

Grieve said the division recognizes the problem caused by CFCs and supports the ordered phase out of the use of fully halogenated CFCs called for in the Montreal Protocol. He said the polyurethane industry would move as fast as practical to meet the goals of the accord but a practical timetable must be developed in terms of using acceptable substitutes.

"Good sense dictates that screening of potential substitute products must be done first; concurrently, toxicity and safety testing must be evaluated. With this knowledge, manufacturers of CFCs can then proceed with the development and construction of manufacturing facilities to make the new products," Grieve said

Some of the technical presentations that will be given covering CFCs are:

- ICI Polyurethanes will discuss partial blowing of rigid PIR/PUR boardstock with water in combination with CFCs.
- BASF and Dow Chemical will present papers discussing flexible foam without the use of CFCs as a blowing agent and combinations with other blowing agents.
- Allied-Signal will discuss the use of carbon absorption to recover CFC from industrial emissions.
- ICI will present a paper reviewing alternative blowing agents in spray foam.
- Du Pont will review their R&D programs on alternative CFCs for polyurethane foams.
- Mobay will review the use of HCFC-123 and HCFC-141B in PUR/PIR rigid foam laminate insulation.
- BASF will also review their work on various chlorofluorocarbons in rigid foams.

These presentations are included in the 60 plus technical papers scheduled. The remainder will cover RIM, structural RIM, flexible foam and rigid foam.

At the same press conference, Dr. Peter Manno of Dow Chemical and the chairman of the product subcommittee on resin statistics, said the U.S. polyurethane industry was in good shape. "If we use the three principal polyurethane raw materials (TDI, MDI and polyether polyol) as barometers, we have been in a strong upward cycle. Total sales of TDI exceeded 700 million pounds and MDI reached 815 million pounds in 1987. At the same time sales of polyether polyols for polyurethanes passed 1.6 billion pounds."

He said the domestic demand for the three materials posted double digit increases for the first quarter of this year. Manno indicated that TDI production, which was 98% of capacity in 1987, will continue to be constrained this year despite a 6% increase in capacity. Some debottlenecking should increase MDI capacity about 3%, but it is unlikely that the capacity utilization will drop below last year's 93% level, he indicated. There are about 2.4 billion pounds of polyether polyol capacity in the U.S. and the 1987 production level was 68%. Manno said a double digit increase in 1988 can be expected over 1987 levels.

Trends in production/sales of U.S. polyurethane chemicals (percent)

TDI	*1986/85*	*1987/86*	*1Q 1988/ 1Q87*
production	4.0	7.8	6.7
domestic sales	-0.3	10.9	10.6
export sales	21.0	-3.9	42.5
MDI			
production	1.3	19.7	15.0
domestic sales	6.1	12.1	16.8
export sales	-2.5	40.4	53.0
Polyether polyols			
production	4.4	12.0	19.7
domestic sales	-0.3	7.2	11.6
export sales	41.6	64.2	113.5

Supplies tight for some machinery, but rebuilders see increased sales

Although supplies are tight for rebuilt rubber machinery, most dealers reported improved sales in 1987 and forecast increasesfor 1988. *Rubber World's* annual survey of used and rebuilt machinery suppliers shows that 55% of the dealers posted higher sales in 1987 over 1986 and that 63% are projecting 1988 sales to be better than 1987.

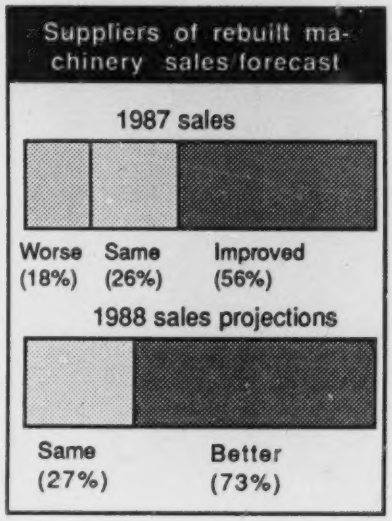
Of the 34 used and rebuilt rubber machinery suppliers surveyed, (see directory beginning on page 40) 29 responded to the survey. Six dealers indicated that sales were worse in 1987, while three said business was the same as 1986. For 1988, none of the respondents predicted lower sales, while five said they should do about the same as 1987. Two companies that participated in prior surveys curtailed operations. Chatham Gear Works of Medina, OH ceased operations while Nerpco, Inc., New Haven, CT, closed its manufacturing operations. Chatham supplied gears for mills, calenders and banburies. Nerpco supplied rubber production machinery.

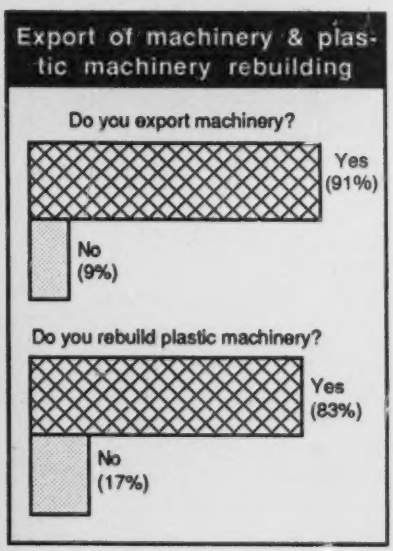
Extruders, especially cold feed extruders, are in the greatest demand and the machines that are hardest to locate according to many of the dealers. Presses are also in demand but most of the dealers indicated they didn't have much problem filling these orders. However, some indicated they were having trouble finding good injection molding machines. Some of the respondents said they are getting requests for larger, more sophisticated machinery systems than in the past.

Demand for rebuilt mills and mixers has remained strong and many in the survey said customers were looking for lab and testing equipment. Rebuilt plastic processing machines are also being asked for and 83% of the respondents said they sell this equipment.

Besides cold feed extruders and injection molding presses, many dealers indicated it was difficult to locate large 4-roll calenders, braiding machines, lab equipment and rheometers. In general, good used machinery suitable for rebuilding seems to be in tight supply according to the survey.

Only two of the respondents said that they did no exporting of machinery. Akron Tire Engineering and Machinery owner Eric Dorfner said that 99% of his business was exported. Alkar Inc., Kent, OH said they export 45% of their equipment, and most of the others said foreign sales accounted from 10-25% of their business.





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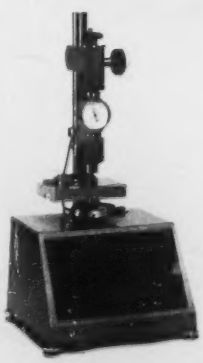

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